

REMARKS

In view of the following remarks, Applicant respectfully requests reconsideration and allowance of the subject application. This amendment is believed to be fully responsive to all issues raised in the Final Office Action of June 7, 2004. As stated above, Claims 1-39 are pending.

Rejection of Claims 1, 2, 4, 6-9, 11-14, 16, 17, 27, 32-35, 38 and 39 under 35 U.S.C. §103(a)

In the Office Action mailed June 7, 2004, the Office rejected claims 1, 2, 4, 6-9, 11-14, 16, 17, 27, 32-35, 38 and 39 under §103(a) as being unpatentable over USPN 6,155,678 to Komplin et al., referred to herein as the Komplin reference, in view of USPN 3,656,827 to Gamblin et al., referred to herein as the Gamblin reference.

To sustain a rejection of a claim under §103, the Office must make a factual showing that the claimed invention as a whole would have been obvious to one of ordinary skill in the art to which the subject matter pertains at the time of the invention. To establish a prima facie case of obviousness, three basic criteria must be met:

(i) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;

(ii) there must be a reasonable expectation of success; and

(iii) the prior art reference (or references when combined) must teach or suggest all the claim limitations wherein the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. MPEP §2142 (citing In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

Claim 1 (Independent)

Claim 1 is directed to *"a storage medium attachable to a replaceable component of an apparatus, the component serving one or more purposes other than data storage and the storage medium operable using an electromagnetic beam and comprising a hologram."*

The Komplin reference pertains to printer cartridge that has a memory module that requires a physical electrical connection to a printer and the Gamblin reference pertains to a holographic storage system that uses a rotating drum, a component integral to the storage system. Further, Applicant finds no evidence as to a reasonable expectation of success in implementing the rotating drum storage system of the Gamblin reference as a substitute for the memory module of the Komplin reference.

In fact, Applicant respectfully submits that Komplin teaches away from using a holographic storage element to store information. Specifically, Komplin discloses a memory element 90 that is "exposed for electrical connection to the printer." Therefore, therefore the Komplin reference already includes an information storage that is aligned with electrical interconnect elements on a printer. There is no need for additional or alternate information storage means for the system disclosed by the Komplin reference. Consequently, there is no evidence to support a motivation or suggestion to combine the Komplin and Gamblin references.

In addition, the change of the memory element 90 of the Komplin reference with a holographic storage system that uses a rotating drum of the Gamblin reference would cause a complete redesign of the Komplin reference. For instance, the Komplin reference discloses that a "elongate slot or recess 86 may also be located, preferably centrally located, on the front side 12c to provide space for placement of memory support arms 88 extending from front surface 48c of the ink cartridge 14 and a memory device 90 attached, as by adhesive to the support arms 88" (Komplin at col. 5, lines 9-14). The positioning of the memory device 90 to support arms 88 at the rear of the cartridge, in contact with electrical contacts, would render it difficult, if not impossible, to provide a drum type device, as disclosed in the

Gamblin reference to direct and receive reflected electron beam in such an area, and may be interfered with by arms 88. Therefore, the combination of the Komplin reference and the Gamblin reference is improper given the standards set forth in MPEP §2143.01.

5 For at least the forgoing reasons, Applicant submits that claim 1 is nonobvious and patentable over the Komplin and Gamblin references and other references of record.

Claims 2, 4, 6, and 7

10 Claims 2, 4, 6, and 7 depend on claim 1 and for at least the forgoing reasons Applicant submits that claims 2, 4, 6, and 7 are patentable over the references of record.

Claim 8 (Independent)

15 Claim 8 recites *a printer cartridge comprising a storage medium operable using an electromagnetic beam*. Applicant submits that there is insufficient evidence in the Komplin and Gamblin references to motivate one of ordinary skill in the art to combine these two references and arrive at the subject matter of claim 8.

20 The Komplin reference does not address issues of transferring information without contact; the Komplin reference pertains to a storage medium where contact is essential:

25 [A]s the cartridges 300, 302, 304 and 306 are vertically positioned and inserted onto the cartridge body 366, the memory modules and support arms and fingers slide into position in slots 377, 379, 381 and 383 on the front panel 385 of the cartridge body 366 so that the memory modules are exposed for electrical connection to the printer.

Komplin at col. 8, lines 11-16 (emphasis added).

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Therefore, the Komplin reference already solves the problem of providing information storage, and there is no indication that a problem is

being solved by combining the Komplin reference with the Gamblin reference.

Further, as discussed with respect to claim 1, the combination of the Komplin et al. reference with Gamblin reference would change the principle
5 of operation of the Komplin reference and would render the memory element of the Komplin reference non-functional due to its location at the back of the cartridge in contact with electrical contacts.

For at least the forgoing reasons, Applicant submits that claim 8 is nonobvious and patentable over the Komplin and Gamblin references and
10 other references of record.

Claims 9 and 11-12

Claims 9 and 11-12 depend on claim 8 and for at least the forgoing reasons Applicant submits that claims 9 and 11-12 are patentable over the
15 references of record.

Claim 13 (Independent)

Claim 13 recites in relevant part *"a component that serves one or more purposes other than data storage"* and *"a R/W storage medium that
20 interfaces with the R/W device using an electromagnetic beam"*.

The Komplin reference does not disclose, teach or suggest use of an electromagnetic beam and the Gamblin reference does not disclose, teach or suggest a component that serves one or more purposes other than data storage.

Also, as discussed with respect to claims 1 and 8 above, the combination of the Komplin reference with Gamblin reference would change the principle of operation of the Komplin reference and would render the memory element of the Komplin reference non-functional due to its location at the back of the cartridge in contact with electrical contacts.

For at least these reasons, Applicant submits that the combination of references suggest by the Office is unsupported by evidence in relation to claim 13 and that claim 13 is patentable over the references of record.

Claims 14, 16 and 17

Claims 14, 16 and 17 depend on claim 13 and for at least the forgoing reasons. Applicant submits that claims 14, 16 and 17 are patentable over
5 the references of record.

Claim 27 (Independent)

Claim 27 is original and recites: *A printer comprising components, at least one of the components having a laser storage medium attached thereto, wherein the storage medium is at least one of readable and*
10 *writable.*

The Komplin reference does not disclose a laser storage medium and there is no evidence to support a motivation or suggestion to combine the Komplin and Gamblin references to arrive at the subject matter of claim 27.

15 The Gamblin reference pertains to a storage system that includes a drum, which serves no purpose other than being part of the storage system (see, e.g., col. 2, lines 26-30 and lines 70-75). Applicant finds no evidence in the Gamblin reference that would teach one of ordinary skill in the art about attaching a storage medium to a component of a printer. Further,
20 Applicant finds no evidence as to a reasonable expectation of success in implementing the rotating drum storage system of the Gamblin reference as a substitute for the memory module of the Komplin reference.

Also, as discussed with respect to claims 1, 8, and 13 above, the combination of the Komplin et al. reference with Gamblin reference would
25 change the principle of operation of the Komplin reference and would render the memory element of the Komplin reference non-functional due to its location at the back of the cartridge in contact with electrical contacts.

For at least these reasons, Applicant submits that claim 27 is patentable over the references of record.

Claim 32 (Independent)

Claim 32 recites *a replaceable print cartridge comprising a storage medium attached thereto, the storage medium responsive to being read by an electromagnetic beam.*

5 There is no evidence to support a motivation or suggestion to combine the Komplin and Gamblin references to arrive at the subject matter of claim 32. The Gamblin reference pertains to a storage system that includes a drum, which serves no purpose other than being part of the storage system (see, e.g., col. 2, lines 26-30 and lines 70-75). Applicant
10 finds no evidence in the Gamblin reference that would teach one of ordinary skill in the art about a print cartridge comprising a storage medium responsive to being read by an electromagnetic beam. Further, Applicant finds no evidence as to a reasonable expectation of success in implementing the rotating drum storage system of the Gamblin reference as a substitute
15 for the memory module of the Komplin reference. “Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the applicant’s disclosure”. In re Vaeck, 20 USPQ2d at 1442 (citing In re Dow Chemical Co., 5 USPQ2d 1529, 1531 (Fed. Cir. 1988), emphasis added). For at least these reasons, Applicant submits that claim 32 is
20 patentable over the references of record.

Claims 33-35 and 38-39

Claims 33-35 and 38-39 depend on claim 32 and for at least the forgoing reasons. Applicant submits that claims 33-35 and 38-39 are
25 patentable over the references of record.

Rejection of Claim 3 under 35 U.S.C. §103(a)

In the Office Action mailed June 7, 2004, the Office rejected claim 3 under §103(a) as being unpatentable over USPN 6,155,678 to Komplin et
30 al., referred to herein as the Komplin reference, in view of USPN 3,656,827 to Gamblin et al., referred to herein as the Gamblin reference, and further in view of Tanaka et al. (USPN 6,446,177).

Claim 3 recites in relevant part a hologram that includes a company logo. The Office relies on the Tanaka reference to reject claim 3. However, the Tanaka reference fails to disclose, teach or suggest a hologram. The Office points to col. 34, lines 26-44 of the Tanaka reference, which states:

5 Although various modes of contrivance for protecting copyrights
have been explained in the first to tenth embodiments, it is also
possible to enable discrimination between memory cards
including the function of copyright protection and other cards
having no such function. There are various modes of
10 discrimination. For example, written notice or logo applied onto
an outer surface of a memory card to demonstrate that it has a
function of copyright protection is also usable for this purpose.
Alternatively, by making some rule on colors or patterns, they
may be used to demonstrate that it has the function of copyright
15 protection.

Tanaka at col. 34, lines 26-44.

While the Tanaka reference does not include the word "hologram", Applicant further asserts that the above quoted language of the Tanaka reference does not suggest use of a hologram. Therefore, Applicant submits
20 that the Tanaka reference when combined with the Komplin and Gamblin
references fails to render the subject matter of claim 3 obvious. As such,
Applicant submits that claim 3 is patentable over the Komplin, Gamblin and
Tanaka references. Further, claim 3 depends on claim 1 and Applicant
asserts that it is therefore patentable for at least the reasons as presented
25 for claim 1.

Rejection of Claims 5 and 36 under 35 U.S.C. §103(a)

In the Office Action mailed June 7, 2004, the Office rejected claims 5
and 36 under §103(a) as being unpatentable over USPN 6,155,678 to
30 Komplin et al., referred to herein as the Komplin reference, in view of USPN
3,656,827 to Gamblin et al., referred to herein as the Gamblin reference, and
further in view of Karakama et al. (USPN 6,654,567).

Claim 5

Claim 5 depends on claim 1 and for at least the forgoing reasons
Applicant submits that claim 5 is patentable over the references of record.

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Claim 36

Claim 36 depends on claim 32 and for at least the forgoing reasons
Applicant submits that claim 36 is patentable over the references of record.

10 Rejection of Claims 10, 15 and 37 under 35 U.S.C. §103(a)

In the Office Action mailed June 7, 2004, the Office rejected claims
10, 15 and 37 under §103(a) as being unpatentable over USPN 6,155,678 to
Komplin et al., referred to herein as the Komplin reference, in view of USPN
3,656,827 to Gamblin et al., referred to herein as the Gamblin reference, and
15 further in view of Bullock et al. (USPN 5,821,156).

Claim 10

Claim 10 depends on claim 8 and for at least the forgoing reasons
(see, e.g., response for claim 8 above) Applicant submits that claim 10 is
20 patentable over the references of record.

Claim 15

Claim 15 depends on claim 13 and for at least the forgoing reasons
(see, e.g., response for claim 8 above) Applicant submits that claim 15 is
25 patentable over the references of record.

Claim 37

Claim 37 depends on claim 32 and for at least the forgoing reasons
(see, e.g., response for claim 32 above) Applicant submits that claim 37 is
30 patentable over the references of record.

Rejection of Claims 18-26 and 28-31 under 35 U.S.C. §103(a)

In the Office Action mailed June 7, 2004, the Office rejected claim 18-26 and 28-31 under §103(a) as being unpatentable over USPN 5,506,611 to Ujita et al., referred to herein as the Ujita reference, in view of USPN 4,933,538 to Heiman et al., referred to herein as the Heiman reference.

Claim 18 (Independent)

Claim 18 recites in relevant part: *"A method of reading data from a storage medium, the data stored to the storage medium through use of an electromagnetic beam, the storage medium attached to a component that serves one or more purposes other than data storage, the method comprising"*.

The Office refers to Ujita at col. 17, lines 11-25, which states:

"FIG. 13 shows another embodiment, in which the method of recording information on the ink cartridge differs from the embodiment shown in FIG. 12. In the present embodiment, information such as the ink jet driving conditions is encoded as a bar code 37 stuck to the housing portion of the ink cartridge, in place of the magnetic tape shown in the previous embodiment. Again in this case, as in the previous embodiment, the information such as the recording head driving conditions is successively read by a reading head 38 when the ink cartridge is inserted into the ink cartridge receiving portion 27 of the ink jet recording apparatus. In the present embodiment, the recording information medium need only be printed as a bar code, so that the medium can be manufactured relatively easily and an inexpensive ink cartridge can be provided." (col. 17, lines 11-25).

Thus, the Ujita reference discloses use of a printed bar code.

The Office states at page 5 of Office Action mailed June 7, 2004 that "Ujita fails to teach the detail of how to read, write and the emitting

comprises laser emission.” Applicant agrees. However, the Office then asserts that the Heiman reference fills the gap at col. 5, lines 25-34 and col. 6, lines 4-52. Applicant respectfully disagrees.

5 The abstract of the Heiman reference states “Apparatus for reading bar code symbols including a laser light source, an optical component for scanning a reference plane, and a sensor for detecting the light of variable intensity reflected from the target”. Thus, the Heiman reference pertains to reading, not to writing. Indeed, the words “write” and “writeable” do not appear in the Heiman reference. As such, Applicant asserts that the Heiman
10 reference does not disclose the sought after subject matter of claim 18 and further that there is no evidence to suggest combining the Ujita and Heiman references to arrive at the subject matter of claim 18. Therefore, for at least some of the forgoing reasons, Applicant submits that claim 18 is patentable over the references of record.

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Claims 19-22

Claims 19-22 depends on claim 18 and for at least the forgoing reasons Applicant submits that claims 19-22 are patentable over the references of record.

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Claim 23 (Independent)

Claim 23 recites: *A method of writing data to a storage medium attached to a component that serves one or more purposes other than data storage comprising:*

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instructing a device, wherein the device is at least one of readable and writeable; and

emitting energy from the device, the emitting based on the instructing and the device positioned in proximity to the storage medium.

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As already mentioned, the Ujita reference discloses use of a printed bar code. The Office states at page 5 of Office Action mailed June 7, 2004, “Ujita fails to teach the detail of how to read, write and the emitting comprises laser emission.” Applicant agrees. However, the Office then

asserts that the Heiman reference fills the gap at col. 5, lines 25-34 and col. 6, lines 4-52. Applicant disagrees.

5 The abstract of the Heiman reference states "Apparatus for reading bar code symbols including a laser light source, an optical component for scanning a reference plane, and a sensor for detecting the light of variable intensity reflected from the target". Thus, the Heiman reference pertains to reading, not to writing. Indeed, the words "write" and "writeable" do not appear in the Heiman reference. As such, Applicant asserts that the Heiman reference does not disclose the sought after subject matter of claim 23 and
10 further that there is no evidence to suggest combining the Ujita and Heiman references to arrive at the subject matter of claim 23. Therefore, for at least some of the forgoing reasons Applicant submits that claim 23 is patentable over the references of record.

15 Claims 24-26

Claims 24-26 depend on claim 23 and for at least the forgoing reasons Applicant submits that claims 24-26 are patentable over the references of record.

20 Claim 28 (Independent)

Claim 28 recites in relevant part: *"installing a component that serves one or more purposes other than data storage in the image forming device, the component having a storage medium attached thereto, the storage medium comprising stored information, the information stored to the storage
25 medium through use of an electromagnetic beam"*.

As already mentioned, the Ujita reference discloses use of a printed bar code. The Office states at page 5 of Office Action mailed June 7, 2004, "Ujita fails to teach the detail of how to read, write and the emitting comprises laser emission." Applicant agrees. However, the Office then
30 asserts that the Heiman reference fills the gap at col. 5, lines 25-34 and col. 6, lines 4-52. Applicant disagrees.

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5 reading, not to writing. Indeed, the words "write" and "writeable" do not appear in the Heiman reference. As such, Applicant asserts that the Heiman reference does not disclose the sought after subject matter of claim 28 and further that there is no evidence to suggest combining the Ujita and Heiman references to arrive at the subject matter of claim 28. Therefore, for at least
10 some of the forgoing reasons Applicant submits that claim 28 is patentable over the references of record.

Claims 28-31

Claims 28-31 depend on claim 28 and for at least the forgoing
15 reasons Applicant submits that claims 28-31 are patentable over the references of record.

Conclusion

Claims 1-39 are pending and believed to be in condition for
20 allowance. Applicant respectfully requests reconsideration and prompt issuance of the present application. Should any issue remain that prevents immediate issuance of the application, the Examiner is encouraged to contact the undersigned attorney to discuss the unresolved issue.


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